

WHAT IS CLAIMED IS:

1. A design variable optimization system for determining a specific design variable from among a plurality of design variables according to a  
5 predetermined evaluation criterion, for a design article whose performance varies with change of each of the plurality of design variables, comprising:

performance value calculating means for performing an analysis on said design article using  
10 each of said plurality of design variables and for calculating a plurality of performance values for evaluating the performance of said design article using each of the plurality of design variables, based on the result of said analysis;

15 design variable determining means for determining said specific design variable from among said plurality of design variables, based on each of said plurality of performance values calculated by said performance value calculating means and using said predetermined  
20 evaluation criterion; and

analysis end time determining means for determining an end time of said analysis in said performance value calculating means so that a  
25 prescribed relation is satisfied by an end time of a period necessary for the calculation of said performance value and the end time of said analysis.

2. The design variable optimization system according to Claim 1, wherein said analysis end time determining means determines the end time of said analysis so that a difference between the end time of the period necessary for the calculation of said performance value and the end time of said analysis becomes a predetermined, fixed value.

3. The design variable optimization system according to Claim 1, wherein the analysis on said design article performed by said performance value calculating means is a simulation concerning dynamic behavior of said design article.

4. The design variable optimization system according to Claim 2, wherein the analysis on said design article performed by said performance value calculating means is a simulation concerning dynamic behavior of said design article.

5. The design variable optimization system according to Claim 1, wherein said design article is an energy absorbing part of a car.

6. The design variable optimization system according to Claim 5, wherein said energy absorbing part of a car is a pillar of a car.

7. A design variable optimization method for determining a specific design variable from among a plurality of design variables according to a

predetermined evaluation criterion, for a design article whose performance varies with change of each of the plurality of design variables, comprising:

5 a performance value calculating step of performing an analysis on said design article using each of said plurality of design variables and for calculating a plurality of performance values for evaluating the performance of said design article using each of the plurality of design variables, based on the  
10 result of said analysis;

a design variable determining step of determining said specific design variable from among said plurality of design variables, based on each of said plurality of performance values calculated in said performance value  
15 calculating step and using said predetermined evaluation criterion; and

an analysis end time determining step of determining an end time of said analysis in said performance value calculating step so that a prescribed  
20 relation is satisfied by an end time of a period necessary for the calculation of said performance value and the end time of said analysis.

8. The design variable optimization method according to Claim 7, wherein said analysis end time  
25 determining step comprises a step of determining the end time of said analysis so that a difference between

the end time of the period necessary for the calculation of said performance value and the end time of said analysis becomes a predetermined, fixed value.

5 9. The design variable optimization method according to Claim 7, wherein the analysis on said design article performed in said performance value calculating step is a simulation concerning dynamic behavior of said design article.

10 10. The design variable optimization method according to Claim 8, wherein the analysis on said design article performed in said performance value calculating step is a simulation concerning dynamic behavior of said design article.

15 11. The design variable optimization method according to Claim 7, wherein said design article is an energy absorbing part of a car.

12. The design variable optimization method according to Claim 11, wherein said energy absorbing part of a car is a pillar of a car.